

**REMARKS**

Entry of this Amendment, and reconsideration and withdrawal of all grounds of objection and rejection are respectfully requested in light of the above amendments and following remarks.

Proposed Drawing changes to Fig. 1 in red ink are attached hereto to illustrate all the claimed elements. Applicants affirm that no new matter has been added.

The specification has been amended to specifically mention the changes in red ink to Fig. 1. Applicants again affirm that no new matter has been added.

Claim 18 has been amended to overcome the rejection under 35 U.S.C. §112, second paragraph.

**Rejection of Claims 1-5, 7, 13-16 and 18 under 35 U.S.C. §103(a):**

Applicants respectfully submit that the rejection of claims 1-5, 7, 13-16 and 18 over the combination of Goldberg (U.S. 6,122,612) in view of Waibel et al. (U.S. 5,712,957, hereafter "Waibel") (both of record) is overcome at least by the amendment made to base claim 1. Claim 1 has been amended to recited at step g(ii) that:

wherein said additional verification techniques include performing at least one of a checksum approach with the N-best list and a personal identification number, a database match comparison with valid entries, digit positional constraints and fuzzy matching criterion.

First of all, the additional verification techniques recited in claim 1 are distinguishable from those allegedly taught by the combination of Goldberg and Waibel (as asserted in Office Action Goldberg at Fig. 5, steps 535 and 550). Fig.3 of Waibel (as asserted in the Office Action) merely breaks up the spoken phrase into single words or

sub-strings of words, and does not actually provide any disclosure regarding generating a second string of N-best lists of different purported strings with probability levels. Thus, the sub-strings as disclosed by Waibel, when combined with the teachings of Goldberg, still fails at least to provide the step of analyzing the repeated spoken string to generate a second list of hypothesized strings arranged in a second N-best list. Nor would the combination of Goldberg and Waibel disclose, teach, suggest, or otherwise render this instantly claimed feature as being obvious to a person of ordinary skill in the art. Applicants respectfully submit that at best, an artisan might glean the generation of an N-best list, followed by the parsing of single words of the list, or portions of words of the list, which is not the subject matter of the claimed invention. The combination of references still fails to suggest the desirability of the modification that would result in the steps of Applicants' claims (please see *In re Fritch*, 973 F.2d, 1260, 23 U.S.P.Q.1nd 1780 (Fed. Cir. 1992)).

Accordingly, for all of the foregoing reasons, it is respectfully submitted that none of the instant claims would have been obvious to a person of ordinary skill in the art over the combination of Goldberg and Waibel. Applicants note that all of the dependent claims are also patentable both for depending from an allowable claims, and for separate reasons supporting patentability.

For all the foregoing reasons, it is respectfully submitted that all the present claims are patentable in view of the cited references. A Notice of Allowance is respectfully requested.

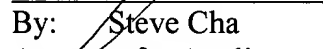
Should the Examiner deem that there are nay issues that may be best resolved via telephone communication, please contact Applicant's representative at the number listed below.

Respectfully submitted,

Dan Piotrowski  
Registration No. 42,079



Date: March 28, 2003

By:   
Attorney for Applicant  
Registration No. 44,069

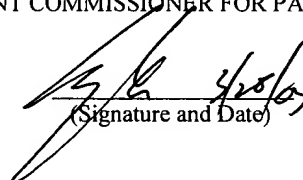
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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to ASSISTANT COMMISSIONER FOR PATENTS, WASHINGTON, D.C. 20231 on March 28, 2003.

Steve Cha, Reg. No. 44,069  
(Name of Registered Rep.)

  
(Signature and Date)



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: Thomas B. Schalk  
SERIAL NO.: 09/222,073 EXAMINER: Abul K. Azad  
FILED: December 29, 1998 ART UNIT: 2654  
FOR: KNOWLEDGE-BASED STRATEGIES APPLIED TO N-BEST  
LISTS IN AUTOMATIC SPEECH

**RECEIVED**

APR 03 2003

Technology Center 2600

**MARKED VERSION SHOWING CHANGES MADE**

Assistant Commissioner for Patents  
Box AF  
Washington, DC 20231

Dear Sir:

In response to the Final Office Action dated January 14, 2003, the Applicant hereby requests amendment of the above-identified application as follows:

**IN THE DRAWINGS:**

As required by the Final Office Action, attached hereto is a revised Fig. 1 illustrating a repeated spoken digit string to generate a second list, a comparison of the first and second list, and performing additional verification techniques.

**IN THE SPECIFICATION:**

Page 8, between the paragraph ending at line 22 and the paragraph beginning at line 23, please insert the following new paragraph:

--After the recognition is unsuccessful at step 28, step 29 determines whether this is the first pass through the system (meaning there has only been one spoken string hypothesized). If yes, then step 30 is performed to request the person to repeat the digit string. At step 32, this repeated string is received by the system, and at step 34 an n-best list is generated for the second or repeated string. At step 36 there is a comparison of the n-best lists of the first string and second or repeated string. At step 38 a checksum is prepared on both the first and second lists, and steps 20-28 are repeated. If at step 29 it is determined that this is the second pass, then at step 40 additional verification techniques such as a fuzzy technique (described infra) checksum verification, or database match are all performed on the 1<sup>st</sup> and 2<sup>nd</sup> strings to generate the valid response.--

**IN THE CLAIMS:**

Please amend the claims as follows:

1. (Three Times Amended) A method of recognizing a spoken digit string, comprising:
  - (a) receiving the spoken digit string;
  - (b) analyzing the spoken digit string to generate a list of hypothesized digit strings arranged in ranked order based on a likelihood of matching the spoken digit string;
  - (c) determining whether individual hypothesized strings of said list satisfy a given constraint, using a given knowledge based recognition strategy;

(d) selecting the first string in the list satisfying the constraint as the recognized string,

if none of the hypothesized digit strings satisfy the constraint,

(e) prompting entry of a repeated spoken digit string, which is a repeat of the spoken digit string entered in step (a);

(f) analyzing the repeated spoken digit string to generate a second list of hypothesized digit strings arranged in ranked order based on a likelihood of matching the repeated spoken digit string; and one of:

(g) (i) selecting the recognized string in accordance with a comparison of the first and second list if the constraint is satisfied; or

(ii) performing additional verification techniques to determine the correct digit string until the constraint is satisfied, and then subsequently selecting the correct digit string, wherein said additional verification techniques include performing at least one of a checksum approach with the N-best list and a personal identification number, a database match comparison with valid entries, digit positional constraints and fuzzy matching criterion.

18. (Twice Amended) The method of claim 1 further comprising the step of prompting entry of a spoken digit string prior [in] to its receipt in step (a) [at a predetermined amount of time before executing step (b)].